

**THE KNOWLEDGE AND PRACTICES OF MOTHERS REGARDING EXCLUSIVE
BREASTFEEDING IN THE MAHWELERENG LOCAL AREA OF THE
WATERBERG DISTRICT, LIMPOPO PROVINCE**

by

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DECLARATION

I declare that the mini-dissertation hereby submitted to the University of Limpopo, for the degree of Master of Public Health, **The knowledge and practices of mothers regarding exclusive breastfeeding in the Mahwelereng Local Area of the Waterberg District, Limpopo Province**, has not previously been submitted by me for a degree at this or any other university, that it is my work in design and in execution and that all the material contained herein has been duly acknowledged.

R. A. FRANS

Date

DEDICATION

This dissertation is dedicated to the memory of my brothers; Simon and Moleka Ramakgolo; my sister-in-law, Maggie; niece, Lesedi; and cousin, Tumelo, who all tragically passed away on the 26th September 2010 in a car accident. Your memory kept me going and you will live on forever in my heart.

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ABSTRACT

The aim of this study was to determine the knowledge and practices of mothers with regard to exclusive breastfeeding in the Mahwelereng Local Area of the Waterberg District, Limpopo Province. A quantitative study was conducted by using a researcher-administered structured questionnaire at six clinics in the Mahwelereng Local Area. A simple random sampling method was used to select the hundred and seventy five mothers who had babies of less than six months old from whom data was collected. Data was analysed with the assistance of the statistician by using the SPSS software program.

Data is presented applying descriptive and inferential statistics. Less than half (74; 42.3%) of the responding mothers were practising exclusive breastfeeding despite the fact that 137 (78.3%) of them were given information about exclusive breastfeeding. There is an association between knowledge of exclusive breastfeeding (Chi-Square= 14.039; Sig=0.000 $p < 0.05$) and exclusive breastfeeding practice. There is no association between exclusive breastfeeding practice and HIV status (Chi-Square=2.444; Sig=0.118; $p > 0.05$). Challenges that mothers faced in relation to practising exclusive breastfeeding were work-related, school-related, health-related, pressure from family to mix-feed, and a lack of knowledge. However, 42.9% of the respondents indicated that they did not have any challenges with regard to the practice of breastfeeding.

It was, therefore, recommended that one-on-one counselling about exclusive breastfeeding needs to be intensified and maternity leave should be extended to six months. The majority of respondents showed adequate knowledge of what exclusive breastfeeding was because they were counselled about breastfeeding although they were not practising it.

Key words: Exclusive breastfeeding, mothers, knowledge, practices, mix-feeding.

DEFINITION OF CONCEPTS

Exclusive Breastfeeding: It means that an infant receives only breast milk as a source of nutrition, not even water, with an exception of prescribed medication and vitamin syrup (WHO, 2011). This means that the baby will only be fed breast milk.

Formula feeding: Feeding an infant a commercially prepared type of animal milk (formula) instead of breastfeeding (Klossner, 2006). In the context of this study, formula feeding means feeding infant commercialised alternative milk other than breast milk that needs to be prepared.

Mixed-feeding: It refers to breastfeeding whilst also giving an infant additional liquid (food-based) or semi-solids in the first six months of the infant's life (WHO, 2011).

Knowledge: Understanding gained through education and experience (Oxford Advanced Learner's Dictionary, 2005). In this study, it means the level of understanding about exclusive breastfeeding. It is based on the ability of the respondents to narrate what exclusive breastfeeding means.

Practice: A common way of doing something (Oxford Advanced Learner's Dictionary, 2005). In this study, practice of infant feeding means a common way of feeding an infant.

ABBREVIATIONS

AFASS: Acceptable, feasible, accessible, sustainable and safe

ANC: Antenatal care

ART: Antiretroviral treatment

HAART: Highly Active Antiretroviral Treatment

HIV: Human Immunodeficiency Virus

PCR: Polymerase Chain Reaction

PMTCT: Prevention of Mother-to-Child Transmission

TAC: Treatment Action Campaign

WHO: World Health Organisation

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CHAPTER 1

OVERVIEW OF THE RESEARCH STUDY

1.1 INTRODUCTION AND BACKGROUND

The importance of exclusive breastfeeding has been emphasised in the World Health Organisation (WHO) documents (WHO, 2011) and other research articles (Holtzman, 2010; Setegn, Belachew, Gerbaba, Deribe, Deribew & Biadgilign, 2012). Breastfeeding has been proven to be the single most effective way of obtaining optimal nutrition for infants (Setegn, *et al.*, 2012). It is also beneficial for both mother and child. The benefits include reduced risk of gastro-intestinal infections, allergic reactions, and stunted growth; for mother the benefits include accelerated weight loss after delivery, encourage child spacing, and strengthen bonding between mother and child. Research done in three developing countries indicates that infants who are not breastfed have a six time higher risk of dying from diarrhoeal and acute respiratory infections than those one who are exclusively breastfed (Mihirshahi, Ichikawa, Muhammed, Oddy, Ampon, Dibley, Igbal, Kabir & Peat, 2007).

Doherty, Chopra, Nkonki, Jackson and Greiner (2006), report that some mothers, even though they understand the importance of exclusive breastfeeding, do not practise it. These mothers fail to practise exclusive breastfeeding because they think that their babies will go hungry and they are afraid of being questioned at home about their choice. Furthermore, failure to disclose their HIV-positive status due to stigma and the community norms of early introduction of feeds has been cited as one of the hindrances towards practising exclusive breastfeeding.

It has been realised that in as much as the government tries to reduce infant mortality as per United Nations (UN) millennium developmental goal number 4, the South African statistics on infant mortality remain high (Nannan, Dorrington, Laubscher, Zinyakatita, Prinsloo, Darikwa, Metzopoulos & Bradshaw, 2012). Diarrhoeal disease amongst infants between 1 to 11 months has been reported as the leading cause of deaths (Nannan, *et al.*, 2012).

According to Holtzman (2010), exclusive breastfeeding is important because of the following protective factors found in breast milk:

- Epidermal growth factor found in breast milk helps to mature the intestinal lining.
- IgA (Immunoglobulin A) prevents attachments of pathogens (germs).
- Lactoferrin (easily absorbed iron found in breast milk) has broad anti-microbial properties.

Outlined in the National Department of Health, South Africa (2010) are the principles of safe infant feeding that seek to maximise child survival. Furthermore, women should receive counselling about infant feeding practices during each antenatal clinic visit with an emphasis on exclusive breastfeeding while mixed feeding should be discouraged, since it predisposes babies to infections and increases the risk of HIV transmission.

Even though breastfeeding is a norm in South Africa, research done by the Human Science Research Council (Holtzman, 2010) indicates that only 25% of babies are exclusively breastfed for six months. Therefore, the majority of babies (75%) are either formula fed or mix fed. Research done by the WHO (2011) indicates that more babies die from illnesses, such as diarrhoea, than from HIV infection due to breastfeeding. Due to the high risk related to infant mortality because of formula feeding, mothers are encouraged to breastfeed their infants exclusively for the first six months (WHO, 2011).

1.2 RESEARCH PROBLEM

All pregnant women who consult at the clinics are supposed to be advised about exclusive breastfeeding for the first six months of their babies' lives. These pregnant women are expected to have made a choice about feeding when they are admitted to the hospital or clinic for delivery. The researcher, who was working as a midwife in the maternity ward at the Mokopane Hospital where most of these women delivered, had observed that some of those mothers appeared to be reluctant to exclusively breastfeed after delivery. Some of them seemed to think that it was not possible to exclusively breastfeed for six months. This was of concern, since it was expected that when these women were admitted for delivery, should have made up their minds in relation to their feeding choices. It was also of great concern to the researcher that women who were HIV-positive did not seem to have information on

the importance of exclusively breastfeeding their babies. Mothers who are HIV-positive are expected to practice exclusive breastfeeding for six months in order to prevent mother-to-child transmission of HIV. The purpose of this study was to determine the knowledge and practices of mothers with regard to exclusive breastfeeding.

1.3 PURPOSE OF THE STUDY

1.3.1 Aim of the study

The aim of the study was to investigate the knowledge and practices of mothers with regard to exclusive breastfeeding.

1.3.2 Objectives of the study

- To determine the knowledge of mothers in relation to exclusive breastfeeding.
- To describe the practices of mothers with regard to exclusive breastfeeding.
- To determine the association between age, marital status, employment, HIV-status, knowledge, and practices of mothers with regard to exclusive breastfeeding in the Mahwelereng Local Area.

1.4 RESEARCH QUESTIONS

- What is the knowledge of mothers in relation to exclusive breastfeeding?
- What are the practices of mothers with regard to exclusive breastfeeding at clinics in the Mahwelereng Local Area of the Waterberg District, Limpopo Province?
- Is there an association between age, marital status, employment, HIV-status, knowledge, and practices of mothers with regard to exclusive breastfeeding in the Mahwelereng Local Area?

1.5 METHODOLOGY

This account of the methodology is only a summary of what is comprehensively discussed in Chapter 3.

1.5.1 Study site

The study was conducted at six clinics in the Mahwelereng Local Area of the Waterberg District. The selected clinics offered maternal and child health services; mothers from those clinics were randomly selected to take part in this study.

1.5.2 Research design

A quantitative research approach that applied a cross-sectional design was used to conduct the study.

1.5.3 Population and sampling

A simple random sampling method was used to select the 175 respondents for the study.

1.5.4 Data collection

Data collection means the gathering of data from respondents by using different methods to capture and translate into information that can be analysed (Polit & Beck, 2008). A structured questionnaire was administered by the researcher.

1.5.5 Data analysis

Data was analysed with the assistance of the university statistician by using the Statistical Package for Social Sciences (SPSS) software program, version 21. Descriptive and inferential statistics were used to analyse data.

1.6 ETHICAL CONSIDERATIONS

Ethical clearance to conduct the study was granted by the Medunsa Research Ethics Committee. Permission to collect data at the selected clinics was granted by the Limpopo Department of Health and the Waterberg District offices respectively. Written consent was obtained from the respondents prior to data collection.

1.7 CONCLUSION

This chapter introduces the study, problem statement, the purpose, and summarises the methodology of how the study was conducted. The next chapter, Chapter 2, reviews the literature that is relevant to this study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

A literature review is a critical summary of previous research studies done on the topic of interest in order to put the research problem into context (Polit & Beck, 2008). This chapter reviews literature on exclusive breastfeeding from around the world and in South Africa, since it is a global concept. It also emphasises the challenges that breastfeeding mothers face and their knowledge about and practices of the subject. Studies conducted by other researchers on exclusive breastfeeding, HIV and breastfeeding, employment and breastfeeding, the baby-friendly hospital initiative, knowledge and practices of breastfeeding, and challenges to exclusive breastfeeding are presented.

2.2 EXCLUSIVE BREASTFEEDING WORLDWIDE

The information provided by WHO (2011) on breastfeeding practices in 94 countries estimates that only 35% of the infants between zero and four months are exclusively breastfed. In the research done on the global trends in exclusive breastfeeding from the UNICEF database in 140 countries, the results show that there has been an improvement in the prevalence of exclusive breastfeeding in infants (zero to five months) in the developing countries from 33% in 1995 to 39% in 2010 (Cai, Wardlow & Brown, 2012).

In a longitudinal study conducted in a high HIV prevalent area in South Africa, exclusive breastfeeding was extremely low, with infants being fed liquids other than breast milk. The prevalence of exclusive breastfeeding was only 10% in the first six weeks and 6% up to 16 weeks (Bland, Rollins, Coutsooudis, Coovadia, 2007). In a media statement released by the Minister of Health, Dr Aaron Motsoaledi (2011), he mentioned that South Africa is one of the 12 countries where infant mortality has been rising. He also cited a study done by the Human Sciences Research Council (2008) which found that only 25.7% of infants younger than six months were exclusively breastfed in South Africa.

In the cross-sectional descriptive study conducted in Kware, Nigeria about knowledge and practice of exclusive breastfeeding, the results concluded that although the practice of breastfeeding in the area was universal, the knowledge and practice of exclusive breastfeeding was low (Oche, Umar & Ahmed, 2011). Lack of knowledge by the older generation about exclusive breastfeeding proved to be the force behind mixed feeding in Mozambique. The qualitative study found that infants under six months of age were given water, traditional medicines, and porridge in addition to breastfeeding (Arts, Geelhood, De Schacht, Prosser, Alons & Pedro, 2010).

2.3 HIV AND BREASTFEEDING

In the past 10 years, mothers who were HIV-positive in South Africa were supplied with free formula in an attempt to reduce mother-to-child-transmission (MTCT) of HIV post-delivery. Evidence showed that even though there was a significant decrease in the infant HIV-rate, more children died from diarrhoea, pneumonia, and malnutrition. Formula feeding has since been discouraged, since a lot of mothers do not meet the accessibility, feasibility, affordability, sustainability, and safety (AFASS) criteria. Therefore, health institutions were ordered to stop issuing free infant formula to mothers, and to encourage and support exclusive breastfeeding as outlined in Circular No 29 of Limpopo Provincial Government (2012). The South African government then adopted the WHO/UNICEF Global Strategy for Infant and Young Child Feeding (IYCF). The strategy sets the standards for global action in support of optimal breastfeeding (Magawa, 2012). The strategy was adopted in South Africa by the Minister of Health, Dr Aaron Motsoaledi, as the Tshwane Declaration on exclusive breastfeeding in August 2011 (Bloemen, 2012).

Studies show that women who are HIV-infected in Africa are up to five times more at risk of maternal death than the uninfected. In South Africa, the prevalence of HIV-positive women attending antenatal clinics has remained between 28 – 33% in the past four years (Black, Brooke & Chersich, 2009). In a study conducted in rural Uganda with infants whose mothers were HIV-positive, on Highly Active Antiretroviral Treatment (HAART), and breastfeeding exclusively in 2003, 92% of those infants were found to be HIV-negative when tested after four months with Polymerase Chain Reaction (PCR) technology. It was also suggested that in resource constrained

settings, HIV-positive women should be assessed for ARV eligibility, treated accordingly, and encouraged to breastfeed exclusively for at least six months (Homsy, Moore, Barasa, Were, Likicho, Waiswa, Downing, Malamba, Tappero & Mermin, 2010).

In a prospective, observational trial study done in Lusaka, Zambia, to test the hypothesis that exclusive breastfeeding has a lower infection rate postnatal than the alternative, the results concluded that postnatal transmission of HIV was much lower among exclusively breastfed infants (Kuhn, Sinkala, Kankasa, Semrau, Kasonde, Scott, Mwiya, Vwalika, Walter, Tsai, Aldrovandi & Thea, 2007). Fear of stigma, women who have initially opted to formula feed may decided to mixed feed as they are labelled HIV-positive. Lack of support from partners, resources like electricity and sanitation, as well as financial and social pressures also play a part in the decision to mix feed (Maru, Datong, Selleng, Mang, Inyang, Ajene, Guyit, Charurat & Abimiku, 2009). There is overwhelming evidence which suggests that exclusive breastfeeding can significantly reduce infant mortality than the mortality rate of those infants who are formula fed.

2.4 EMPLOYMENT AND BREASTFEEDING

A cross-sectional study conducted in North Jordan on knowledge, attitude, and practice of breastfeeding concludes that women who are employed and those who have had a caesarean section are less likely to breastfeed (Khassawneh, Khader, Amarin & Alkafajei, 2006). In another cross-sectional study conducted in Malaysia, 51% of employed mothers had stopped breastfeeding in the first three months of their babies' lives. Lack of support and inadequate facilities at places of work prove to be the main contributor towards the early cessation of breastfeeding (Amin, Said, Sutan, Shah, Darus, Shamsuddin, 2011). In a cross-sectional study in the Goba District, Ethiopia, results indicate that employed mothers are less likely to breastfeed exclusively due to challenges that are work-related (Setegn, *et al.*, 2012). Insufficient knowledge on exclusive breastfeeding practices was found to be a factor for most working mothers in a study done in Assiut City, Egypt. The researchers recommended health education programmes supporting and encouraging exclusive breastfeeding amongst working women (Kotb, Mohamed, Mohamed & Khalek, 2012).

The issue of disclosure has also influenced feeding practices by mothers. There was a qualitative study done in South Africa with an objective to explore how the HIV epidemic affected the infant feeding experiences of HIV-positive mothers. The findings indicate that fear of disclosure and stigma has weakened the ability of HIV-positive mothers to resist family and community norms that encourage early introduction of fluids, solids while questioning non-breastfeeding (Doherty, *et al.*, 2006).

There is significant evidence which shows that babies who are formula fed are at a significantly higher risk of mortality than those who are breastfed. Most mothers are young, single and unemployed and are, therefore, unable to protect their decision making autonomy (Doherty, *et al.*, 2006).

2.5 THE BABY-FRIENDLY HOSPITAL INITIATIVE

Due to the benefits of exclusive breastfeeding, the WHO and UNICEF launched a Baby-Friendly Hospital Initiative (BFHI) in 1991 which seeks to strengthen maternity practices to support breastfeeding. The main aim is to follow ten steps to successful breastfeeding at every facility that provides maternity services and care for new-born infants. In short, the ten steps highlight the importance of exclusive breastfeeding by all mothers and to have trained health workers who implement the breastfeeding policy at all maternity facilities. There are also success stories that are highlighted in the UNICEF home page on the Internet about the reduction of infant morbidity and mortality after the implementation of BFHI. The initiative was launched in South Africa in 1994.

According to the WHO (2010) maternity institutions can be awarded a “Baby-Friendly Status” when they implement and practise the 10 steps to successful breastfeeding as follows:

- Have a written breastfeeding policy that is routinely communicated to all health care staff members.
- Train all health care staff members in skills that are necessary for implementing this policy.
- Inform all pregnant women about the benefits and management of breastfeeding.

- Help mothers initiate breastfeeding within half an hour of birth.
- Show mothers how to breastfeed, and how to maintain lactation even when they have to be separated from their infants.
- Give new-born infants no food or drink other than breast milk, unless it is medically indicated.
- Practise rooming-in; i.e. allow mothers and infants to remain together 24 hours a day.
- Encourage breastfeeding on demand.
- Do not give any artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
- Foster the establishment of breastfeeding support groups and refer mothers to them upon discharge from the hospital or clinic.

2.6 KNOWLEDGE AND PRACTICES OF BREASTFEEDING

In a study done in the rural population found that 87% of mothers had good knowledge of what exclusive breastfeeding meant, though only 30.5% kept on practising it when their babies were between four and six months old (Agu & Agu, 2011). Chatman, Salihu, Roofe, Wheatle, Henry & Jolly, (2004) found that there was no significant difference in knowledge and attitudes of mothers who were exclusively breastfeeding and those who were not, though the prevalence of exclusive breastfeeding remains low at 22.2% amongst the rural Jamaican mothers.

2.7 CHALLENGES TO EXCLUSIVE BREASTFEEDING

During the address by the Minister of Health, at the breastfeeding consultative meeting, Dr Motsoaledi acknowledged the challenges that contributed to the low exclusive breastfeeding rates in South Africa. The challenges included, unaccommodating workplaces for breastfeeding mothers, lack of family and community support and promotion of formula by manufacturers (Motsoaledi, 2011). The challenges are supported by Agu & Agu (2011) who found that single mothers and working mothers were less likely to breastfeed exclusively because of conditions that might not be conducive. Cultural factors and pressures from elders in families are influencing mothers to mix feed, with 38% of mothers giving their infants water in their first month of life (Kakute, et al., 2005). This is supported by the WHO (2010)

article that breastfeeding should be advocated to all people in the society; especially to those people who may influence the mother's feeding practices.

Financial support also seems to affect the decision of mothers to exclusively breastfeed for six months. This is evident in the study by Chatman, *et al.* (2004) which indicates that women who are financially supported by their partners are more likely to exclusively breastfeed than mothers who are breadwinners.

One of the major challenges is HIV and one cannot talk about breastfeeding without mentioning the HIV burden in South Africa. Without treatment, approximately one third of infants born to HIV-positive mothers are infected with HIV through mother-to-child-transmission (MTCT) during child birth and breastfeeding (UNICEF, 2013). A cohort study in Uganda compares the mortality rates of breastfeeding and formula feeding infants of HIV-positive women. The results show that mortality in formula fed infants are six times higher than in breastfed infants of HIV-positive mothers (Kagaayi, Gray, Brahmbatt, Kigozi & Nalugoda, 2008). These findings are supported by the study done in Zimbabwe that exclusive breastfeeding may substantially reduce HIV transmission to infants whose mothers are HIV-positive (Iliff, Piwoz, Tavengwa, Zunguza, Marinda, Nathoo, Moulton & Ward, 2005).

2.8 CONCLUSION

This chapter has reviewed literature that relates to exclusive breastfeeding from most angles. The next chapter describes the methodology that outlines how the study was conducted.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research methodology is the manner in which the researcher wishes to structure a study, as well as collect and analyse data (Polit & Beck, 2008). This chapter discusses the research approach, study site, population, as well as methods used to collect and analyse data.

3.2 RESEARCH APPROACH

The quantitative research approach was used to conduct this study. The quantitative research approach is a formal, objective, systematic process in which numerical data is used to obtain information (Burns & Groove, 2009). LoBiondo-Wood and Haber (2006) define quantitative research as the process of testing associations, differences, as well as cause and the effect of interactions among and between variables. This approach was chosen because the researcher wanted to determine the knowledge and practices of women with regard to exclusive breastfeeding and the associations between different variables of their knowledge and practices.

3.3 STUDY SITE

The Mahwelereng Local Area is located in the Waterberg District of the Limpopo Province. Mahwelereng is the main township located less than 5km from the town named Mokopane (see Appendix J). The township is bordered by rural settlements with high unemployment and poverty rates. There are eight clinics in the Mahwelereng Local Area of which three are mobile clinics. The three mobile clinics have been excluded from the study because they do not have a formal structure and, therefore, the privacy of participants would have been compromised. Mothers were randomly selected to participate in the study from the clinics that were offering maternal and child health services. The six clinics from which data was collected were:

- Bokwalakwala Clinic;
- Madiba Clinic;

- Mahwelereng Clinic 1;
- Mahwelereng Clinic 2;
- Mogalakwena Clinic; and
- Sekgakgapeng Clinic.

3.4 RESEARCH DESIGN

A cross-sectional research design was used to conduct the study. A cross-sectional design involves the collection of data once and the phenomenon studied is captured during a single period of data collection (Polit & Beck, 2008). Data about the knowledge and practices of mothers in relation to exclusive breastfeeding was collected on only one occasion. This study was conducted over a period of a month at the six clinics in the Mahwelereng Local Area.

3.5 POPULATION

A population is the entire group of people or objects who / that are of interest to the researcher or who / that meet the characteristics that are of interest to the researcher (Burns & Grove, 2009). The population of the study were all mothers who consulted at the clinics with babies who were younger than or at least six months old. A total number of 327 mothers met the criterion, since they had babies who were six months old or younger, those mothers and their babies were seen once a month at the six well baby clinics in the Mahwelereng Local Area. On average, each clinic attended to between eight and ten babies under the age of six months per day therefore, the mothers of those babies were targeted.

3.6 SAMPLING

A simple random sampling method was used to select the respondents for the study. The sample was drawn from the population in such a way that each member had an equal chance of being selected (Fox & Bayat, 2007). The researcher approached mothers while they were sitting in the waiting area in order to establish whether they met the criteria for inclusion in the study. Those mothers who met the criteria were then allocated numbers that were then written on square pieces of paper. The random drawing or hat method was used where the numbered pieces of paper were placed in a container. The pieces of paper were then mixed thoroughly followed by

withdrawing of numbered pieces of paper by members of the research population, until the desired sample size of 175 mothers were reached as suggested by Brink (2009). Krejcie & Morgan's (1970) table was used to determine the sample size. Mahwelereng Clinic 1 had the largest population of the six clinics and attended to twice as many babies each month. Therefore, 60 respondents from Mahwelereng Clinic1 were randomly selected and 23 participants from each of the other five clinics.

- **Inclusion criteria**

Mothers who had a Road-to-Health-Chart to confirm their babies' age were considered for the study. Only biological mothers with babies who were six months or younger were selected.

- **Exclusion criteria**

Women who were not biological mothers of the babies and had brought them to the clinic were excluded from the study. The reason for exclusion was that it would have been a challenge to get some of the information, such as the HIV-status of the mother.

3.7 DATA COLLECTION

The researcher administered a structured questionnaire to collect data. The questionnaire was adapted from Tan (2011) and modified to suit this study (Appendix A).

The questionnaire was divided into the following five sections:

- Section A: Demographic data;
- Section B: Medical history;
- Section C: Feeding practices;
- Section D: Knowledge on exclusive breastfeeding; and
- Section E: Challenges.

Data was collected over four weeks from 6 January 2014 to 3 February 2014. The first week was reserved for a pilot study. The pilot study was conducted at the

Mokopane Hospital Gateway Clinic which did not form part of the selected clinics for the main study. Question number 35 which asked about the challenges mothers faced whilst breastfeeding was added after the pilot study. An average of two days was spent at each of the five clinics. A week was spent collecting data at the Mahwelereng Clinic¹, since twice the numbers of respondents were making use of the health services at this clinic. The researcher was responsible for the collection of data.

3.8 DATA ANALYSIS

The questionnaires were initially manually numbered and grouped in clinics to ensure that no questionnaire was captured twice. Data was then captured on a Microsoft Excel spread sheet before analysis. Data was then analysed by using the Statistical Package for Social Sciences (SPSS) software program, version 21. Descriptive and inferential statistics were used to analyse data with the assistance of the University of Limpopo statistician.

3.9 RELIABILITY AND VALIDITY

Validity refers to the degree to which the instrument measures what it is intended to measure (Burns & Groove, 2009). Reliability is concerned with the consistency of the measuring instrument. An instrument is said to be reliable when the same instrument can be used to measure the same individuals at different times with the same results (Burns & Groove, 2009). A pilot study with 10 respondents was conducted to test the instrument for reliability and validity. The structured questionnaire was tested for factors, such as language use and whether the format of the study was consistent with the objectives of the study. A questionnaire used by Tan (2011) was adapted to suit this study. The pilot study was conducted at the Mokopane Hospital Gateway Clinic on randomly selected mothers with babies who were six months old or younger.

3.10 BIAS

Bias is any influence that may distort the results of a study (Polit & Beck, 2008). The participants were randomly selected in order to avoid bias. Only mothers who had brought their own biological babies to the well-baby clinic (immunisations or weight

monitoring) participated in the study. The researcher collected data on her own in a private or consulting room at each of the six clinics in the Mahwelereng Local Area. The same structured questionnaire was used for all the respondents to ensure consistency.

3.11 ETHICAL CONSIDERATIONS

- **Ethical clearance**

The researcher had requested ethical clearance from the Medunsa Research Ethics Committee (MREC) that granted such clearance (Appendix E). There were neither any tests performed, nor physical harm done to the mothers during the data collection process. Respondents were informed of their right to withdraw from the study as participation was voluntary.

- **Permission**

Permission to collect data from willing respondents was requested from the Limpopo Department of Health, Waterberg District and from the clinic managers (Appendix D: Letter to request permission to collect data). Approval was granted by the Limpopo Department of Health, Waterberg District and the clinic managers to collect data from the selected clinics (Appendices F and G).

- **Confidentiality**

A private room or consultation room was used for the purpose of collecting data to ensure privacy and confidentiality. Respondents' questionnaires were kept safe. All answered questionnaires were handled by the researcher only to ensure confidentiality.

- **Informed consent**

Written consent was obtained from each of the participants (Appendices B and C). The participants were also informed of their right to withdraw from the study at any time and that participation was voluntary. The respondents were briefed on the objectives and purpose of the study before they could give consent. Those who agreed to participate in the study signed a consent form.

- **Anonymity**

Names of participants were omitted from the questionnaires to ensure anonymity. Each participant was given a number and a clinic name which helped during the data capturing process.

3.12 SIGNIFICANCE OF THE STUDY

The researcher hopes to add to the body of knowledge on exclusive breastfeeding. Recommendations based on the results of the study will be made to the Limpopo Department of Health with the hope of influencing the breastfeeding policies.

3.13 CONCLUSION

This chapter discusses the research methodology according to which the study was conducted. These sections are covered in Chapter 3: Research approach, study site, research design, population, sampling, data collection, data analysis, reliability and validity, bias, ethical considerations, and the significance of the study. The results of the research study are presented in the next chapter.

CHAPTER 4 RESEARCH RESULTS

4.1 INTRODUCTION

In this chapter, the results of the study are presented. Tables and graphs are used to explain the results. A structured questionnaire was answered by 175 mothers in relation to exclusive breastfeeding. The SPSS software program was used to analyse the results. The results are presented according to the sections of the questionnaire. Furthermore, the association between knowledge and practices of mothers about exclusive breastfeeding and age, marital status, employment status, and HIV-status were determined.

4.2 PRESENTATION OF RESULTS

Table 4.1: Clinic Names showing the number of respondents

Clinic Names	Frequency	Percentage (%)
Bokwalakwala	23	13.1
Madiba	23	13.1
Mahwelereng Clinic 1	60	34.3
Mahwelereng Clinic2	23	13.1
Mogalakwena	23	13.1
Sekgakgapeng	23	13.1
Total	175	99.8

n = 175

Table 4.1 lists the names of clinics in the Mahwelereng Local Area where data was collected. At each of the five clinics, 23 (13.1%) mothers were selected while 60 (34.3%) at the Mahwelereng Clinic 1 participated in the study.

4.2.1 Section A: Demographic data of respondents

Table 4.2: Age of mothers in years

Age in years	Frequency	Per cent (%)
12 – 17 years	3	1.7
18 – 24 years	62	35.4
25 – 35 years	93	53.1
36 – 49 years	17	9.7
Total	175	100.0

n=175

The results in Table 4.2 indicate that out of 175 mothers interviewed, 93 (53.1%) were between the ages of 25 – 35 years, 62 (35.4%) were, in the 18 – 24 years age group, 17 (9.7%) were in the 36 – 49 years age group, while 3 (1.7%) were between 12 – 17 years old.

Table 4.3: Marital status of respondents

Marital status	Frequency	Percentage (%)
Single	144	82.3
Married	31	17.7
Total	175	100.0

n=175

Table 4.3 shows that only 31 (18%) of mothers who completed the questionnaire were married while 144 (82%) were single.

Table 4.4: Level of education of respondents

Educational level	Frequency	Percentage (%)
Never been to school	1	0.6
Primary (Grade1 – Grade 7)	5	2.9
Secondary (Grade 8 – Grade 12)	134	76.6
Tertiary	35	20.0
Total	175	100.0

n =175

Table 4.4 indicates that the majority of respondents had acquired a secondary school education 134 (76.6%), 35 (20%) had a tertiary level education, 5 (2.9%) acquired a primary level education, while only 1 (0.6%) had never attended school.

Table 4.5: Employment status of respondents

Employment status	Frequency	Percentage (%)
Student	24	13.7
Unemployed	96	54.9
Domestic worker/ labourer	34	22.3
Professional	16	9.1
Total	175	100

n=175

Table 4.5 indicates that 96 (54.9%) of the mothers were unemployed, followed by 34 (22.3%) domestic workers/labourers, 24 (13.7%) were students, while 16 (9.1%) were professionals.

Table 4.6: Monthly household income of respondents

Monthly household income	Frequency	Percentage (%)
Less than R1500	50	28.6
R1 500 – R3000	49	28.0
More than R3000	76	43.4
Total	175	100.0

n=175

Seventy six (43.4%) of the respondents said that their monthly household income was above R3000, whilst 50 (28.6%) had a household income of less than R1500, followed by 49 (28.0%) who had a household income of R1 500 – R3000 (Table 4.6).

Table 4.7: Age of babies in months

Age of babies in months	Frequency	Percentage (%)
0 – 1 month	31	17.7
2 – 3 months	45	25.7
4 – 6 months	99	56.6
Total	175	100.0

N=175

Ninety nine (56.6%) of the mothers had infants between the ages of 4 and 6 months, followed by 45 (25.7%) who had infants of 2 – 3 months old, and only 31 (17.7%) had infants of between 0 – 1 month old (Table 4.7).

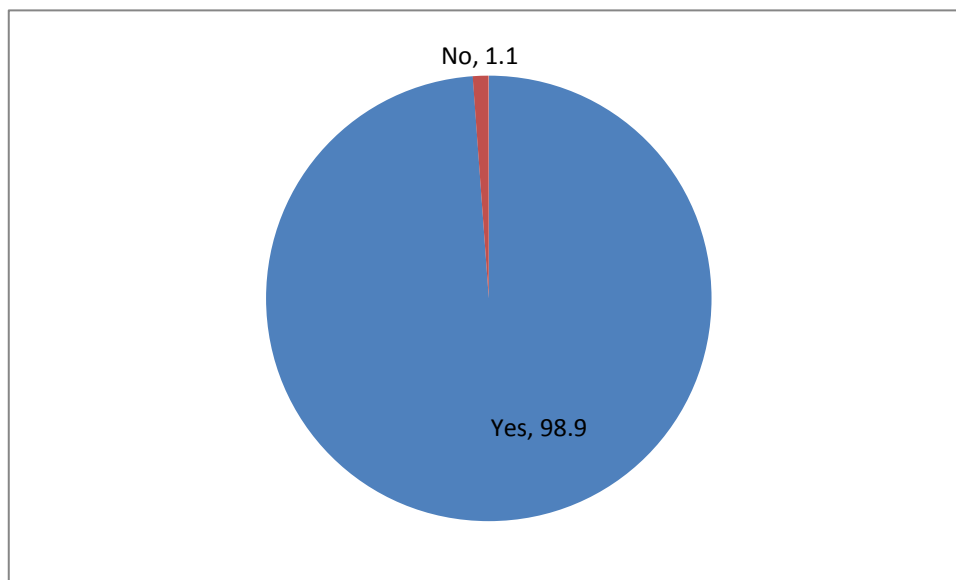
Table 4.8: The person who cares for the baby most of the time

Carer	Frequency	Percentage (%)
Myself	108	61.9
Family member	52	29.7
Nanny/helper	11	6.3
Day-care centre	4	2.3
Total	175	100

n=175

Table 4.8 indicates that 108 (61.7%) of the mothers were taking care of their babies by themselves, followed by 52 (29.7%) of family members who were attending to the babies, only 11 (6.3%) of the babies were cared for by their nannies, and 4 (2.3%) were cared for at a day-care centre.

4.2.2 Section B: Medical history of respondents



n=175

Figure 4.1: Antenatal clinic attendance

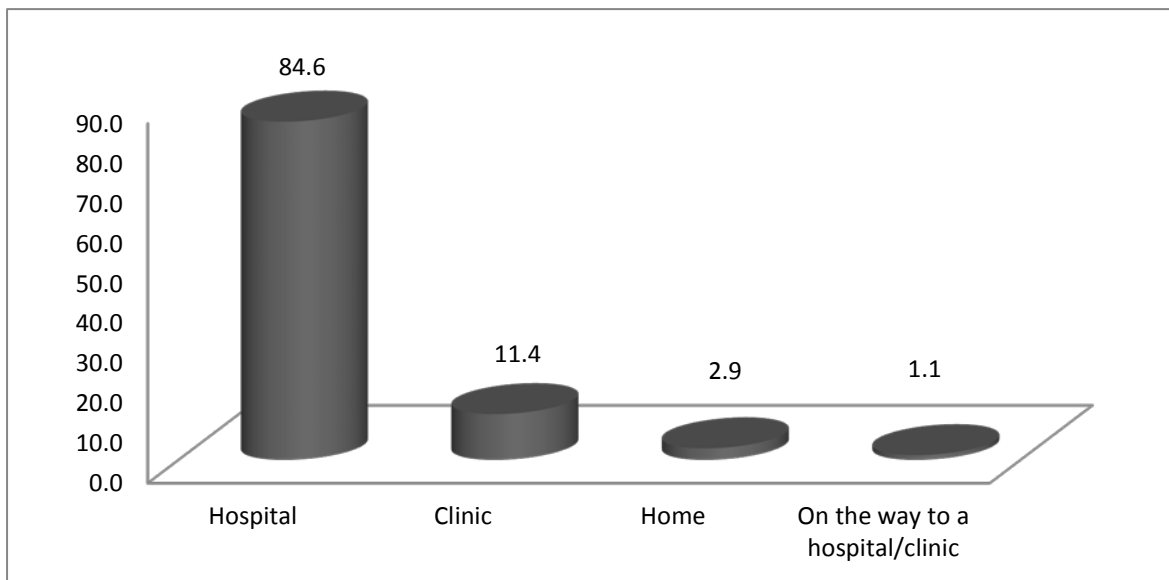
Figure 4.1 indicates that almost all the respondents (173; 98.9%) had attended antenatal clinics whilst only 2 (1.1%) did not attend.

Table 4.9: The number of times the respondents attended ANC

ANC attendance	Frequency	Percentage (%)
2 – 3 times	17	9.8
4 times and more	156	90.2
Total	173	100

n=173

Table 4.9 shows that 156 (89.1%) of the respondents attended antenatal clinic 4 times and more, while only 17 (9.7%) attended 2 or 3 times.



n= 175

Figure 4.2: Place of delivery

Figure 4.2 reveals that 148 (84.6%) of the mothers delivered their babies at the hospital, followed by 20 (11.4%) deliveries at the clinic, home deliveries were 5 (2.9%), and 2 (1.1%) of the women delivered on the way to a health facility.

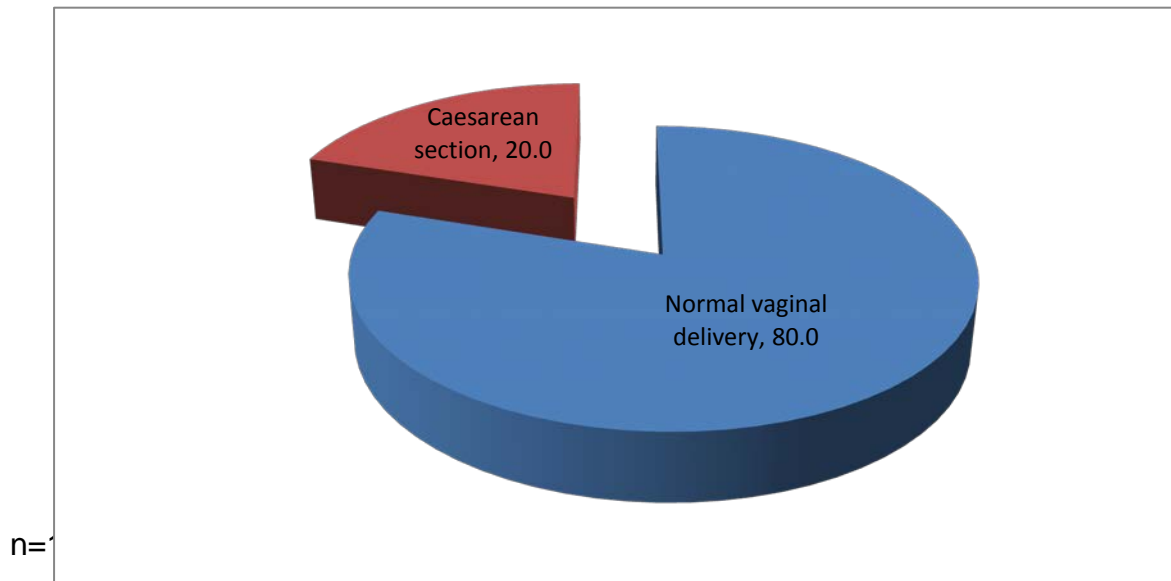
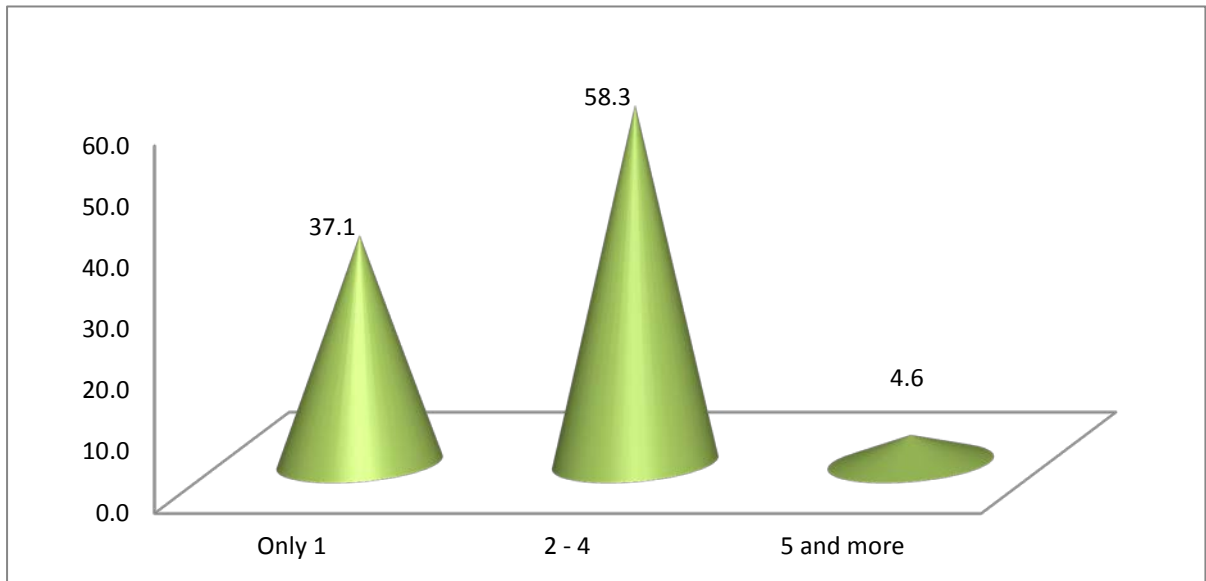


Figure 4.3: Mode of delivery

Figure 4.3 indicates that 140 (80%) of the respondents had a normal vaginal delivery, whilst 35 (20%) delivered by caesarean section. No instrumental deliveries were recorded.



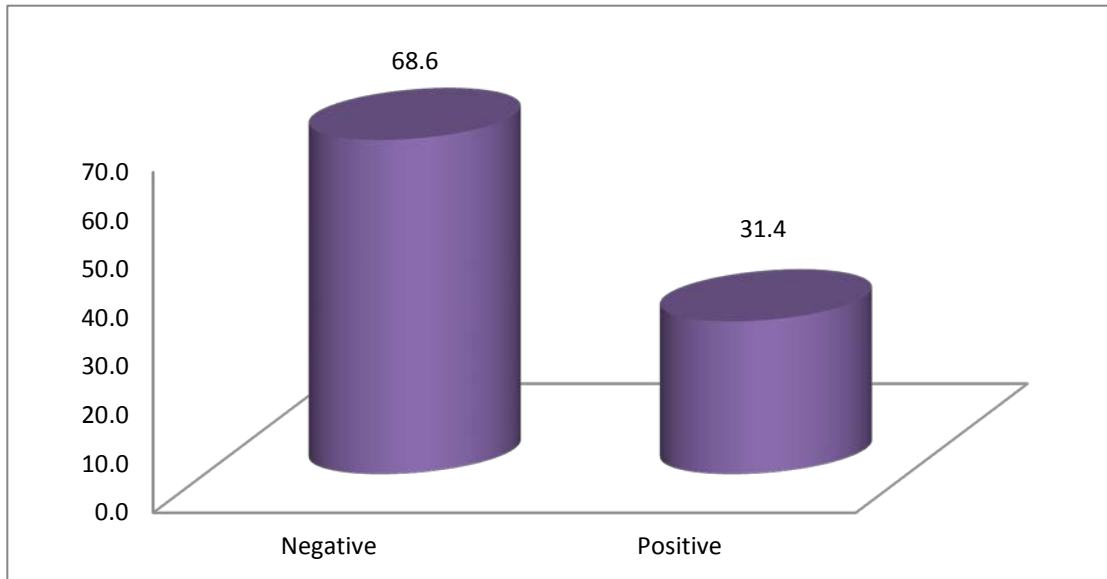
n=175

Figure 4.4: Parity (the number of children delivered)

One hundred and two (58.3%) of the respondents had delivered 2–4 times, followed by 65 (37.1%) who had delivered only once, while 8 (4.6%) delivered 5 times or more (Figure 4.4).

HIV testing

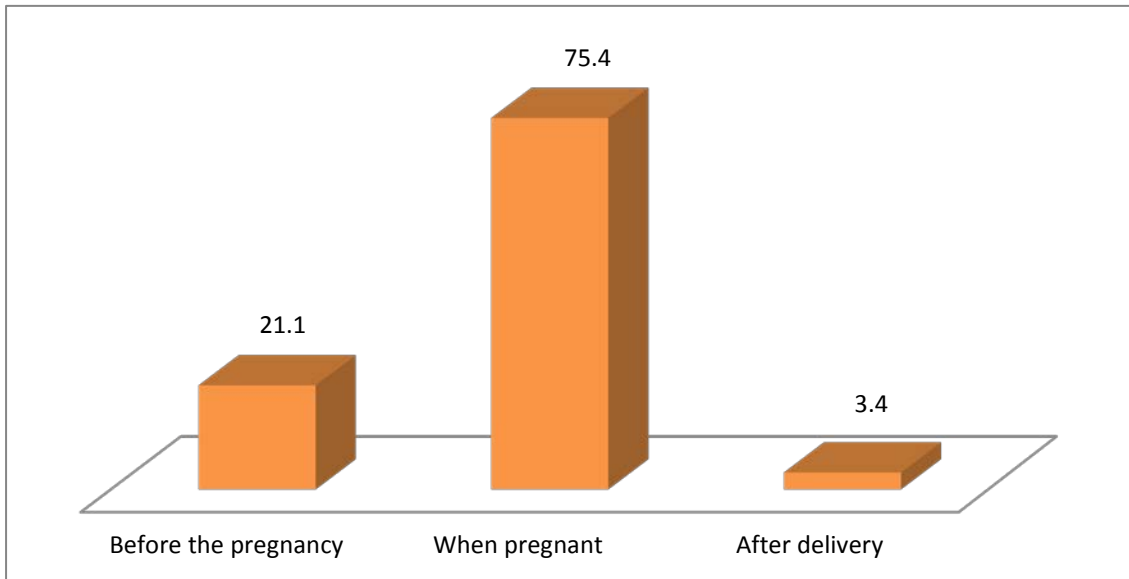
All respondents indicated that they had tested for HIV 175 (100%).



n=175

Figure 4.5: HIV results

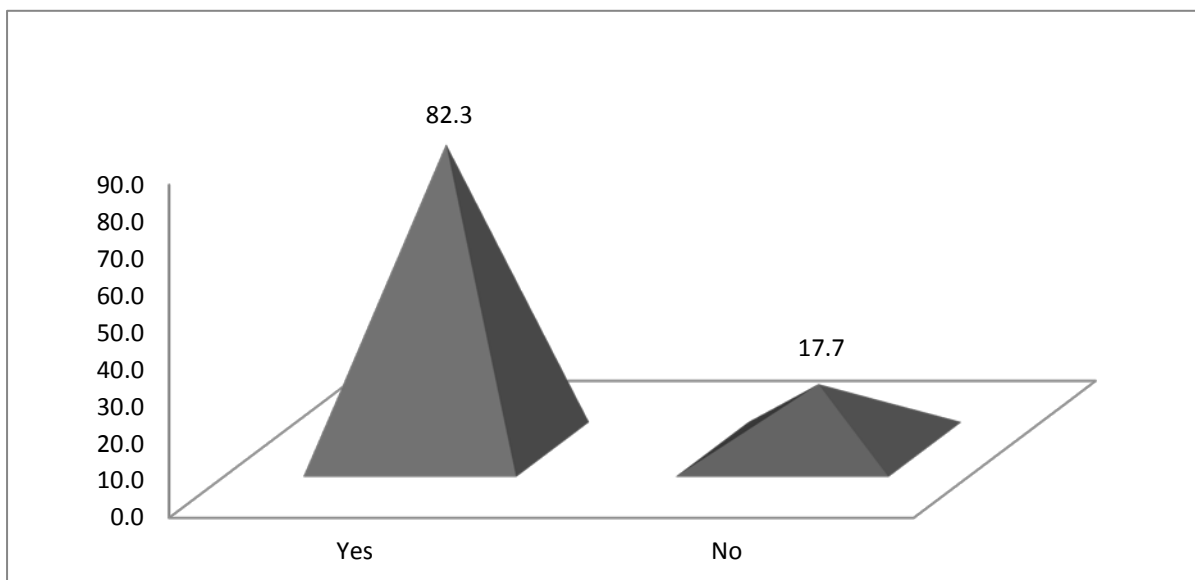
Figure 4.5 indicates that 120 (68.6%) of the responding mothers had tested HIV-negative while about a third, 55 (31.4%) had tested HIV-positive. The results were confirmed by the road-to-health cards.



n=175

Figure 4.6: The time of testing for HIV

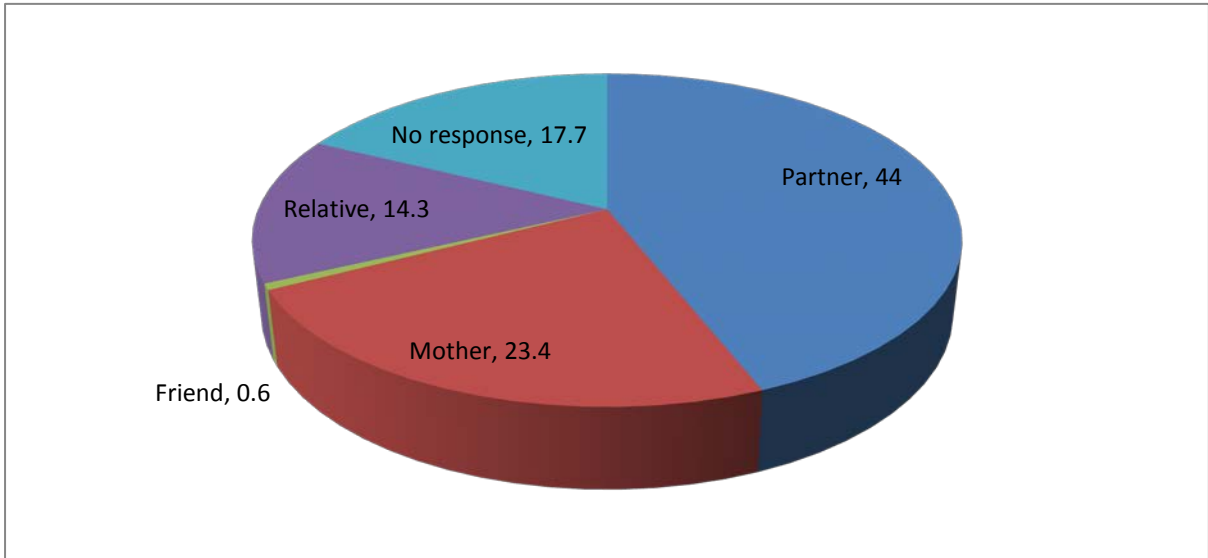
The respondents who had tested for HIV when pregnant were 132 (75.4%), 37 (21.1%) had tested before falling pregnant, and only 6 (3.4%) had tested after delivery (Figure 4.6).



n=175

Figure 4.7: Disclosure of HIV-status

Figure 4.7 reveals that 144 (82.3%) of the respondents had disclosed their HIV-status, whilst 31 (17.7%) did not disclose.

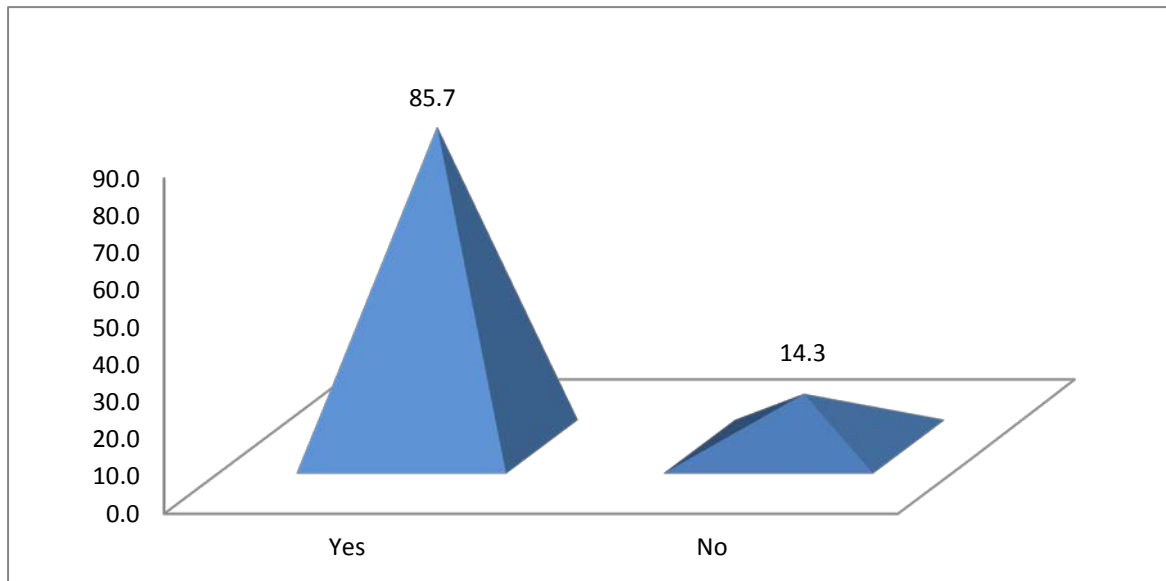


n=144

Figure 4.8: The person whom the HIV-status was disclosed to

Those respondents who disclosed to their partners were 77 (44%), 41 (23.4%) disclosed to their mothers, 25 (14.3%) disclosed to their relatives, while only 1 (0.6%) disclosed to a friend (Figure 4.8).

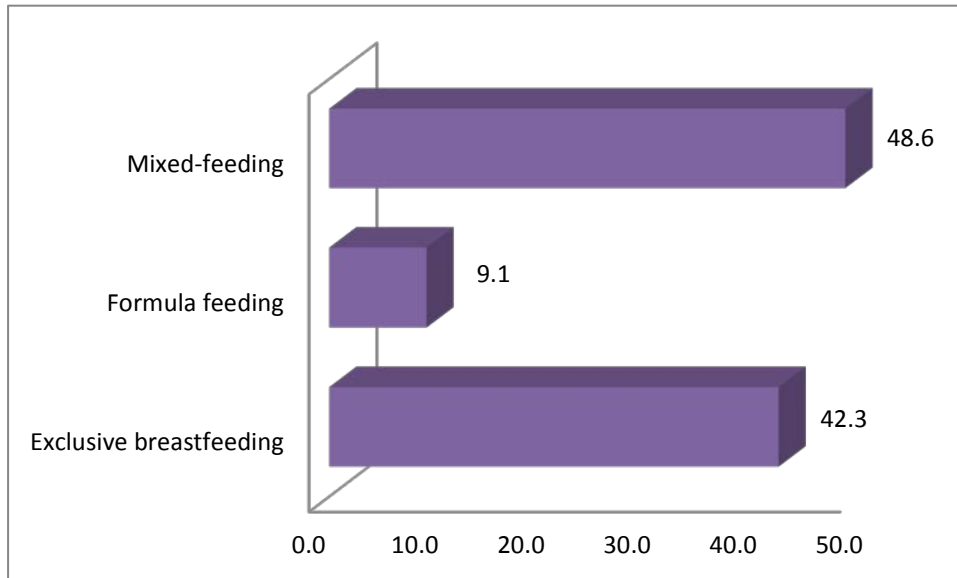
4.2.3 SECTION C: Feeding Practices



n=175

Figure 4.9: Counselling on feeding practices

Figure 4.9 reveals that a vast majority 150 (85.7%) of the respondents were counselled on feeding practices and 25 (14.3%) were not counselled.



n=175

Figure 4.10: Feeding method

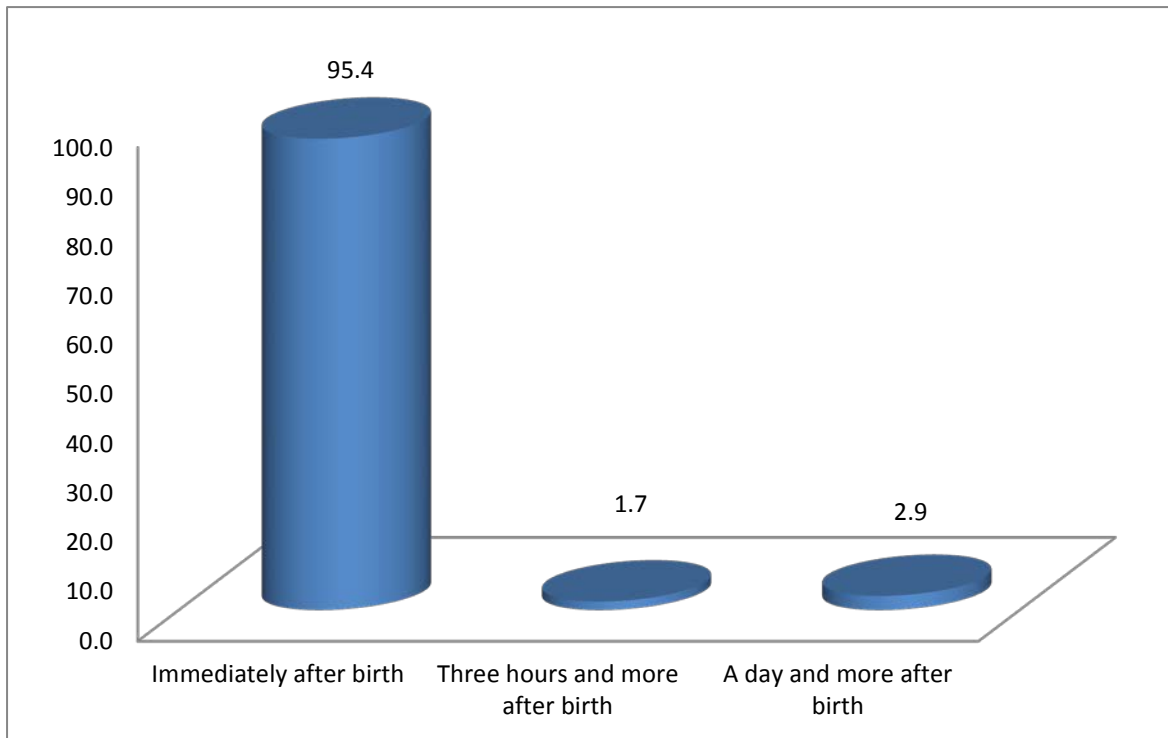
Those respondents who were mix-feeding their babies were 85 (48.6%), 74 (42.3%) of the responding mothers were exclusively breastfeeding, and 16 (9.1%) were feeding their babies formula milk (Figure 4.10).

Table 4.10: Period of exclusive breastfeeding

Period of breastfeeding	Frequency	Percentage (%)
Less than 6 months	72	97.3
6 months	2	2.7
Total	74	100

n=74

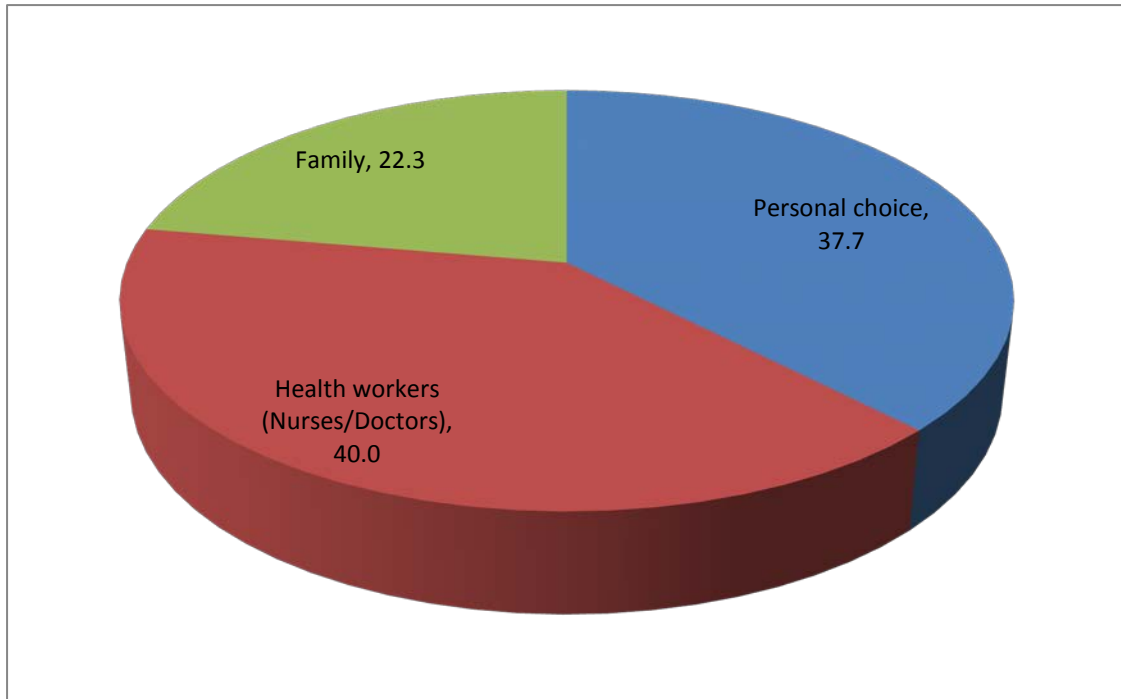
Seventy two (97.3%) of the mothers intended to exclusively breastfeed their babies for less than six months while only 2 (2.7%) were willing to breastfeed for six months (Table 4.10).



n=175

Figure 4.11: Time when the mothers started breastfeeding their babies

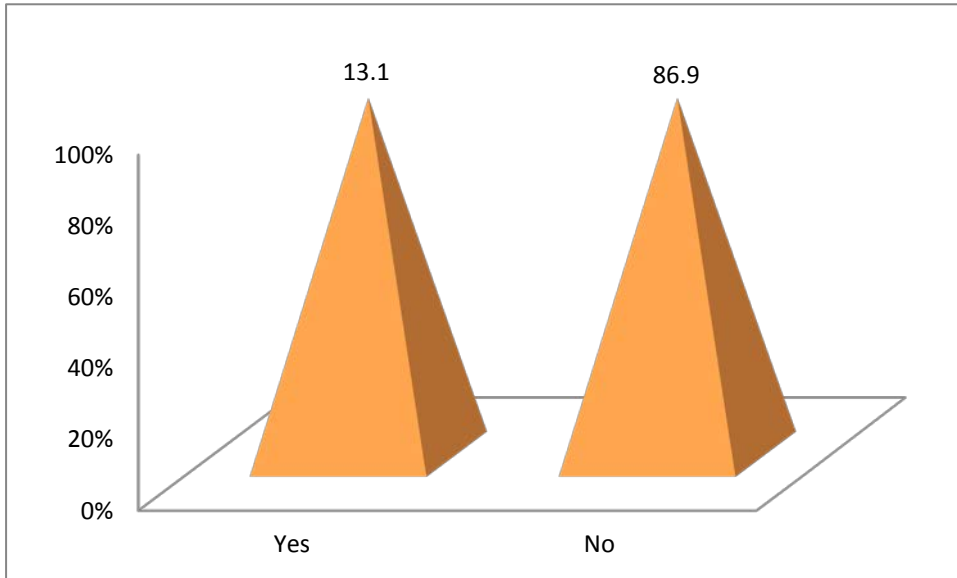
Mothers who started feeding their babies immediately after birth were 167 (95.4%), 5 (2.9%) started a day or more after birth, while 3 (1.7%) started between three and 24 hours after birth (Figure 4.11).



n=175

Figure 4.12: Who influenced the mothers' choice of feeds

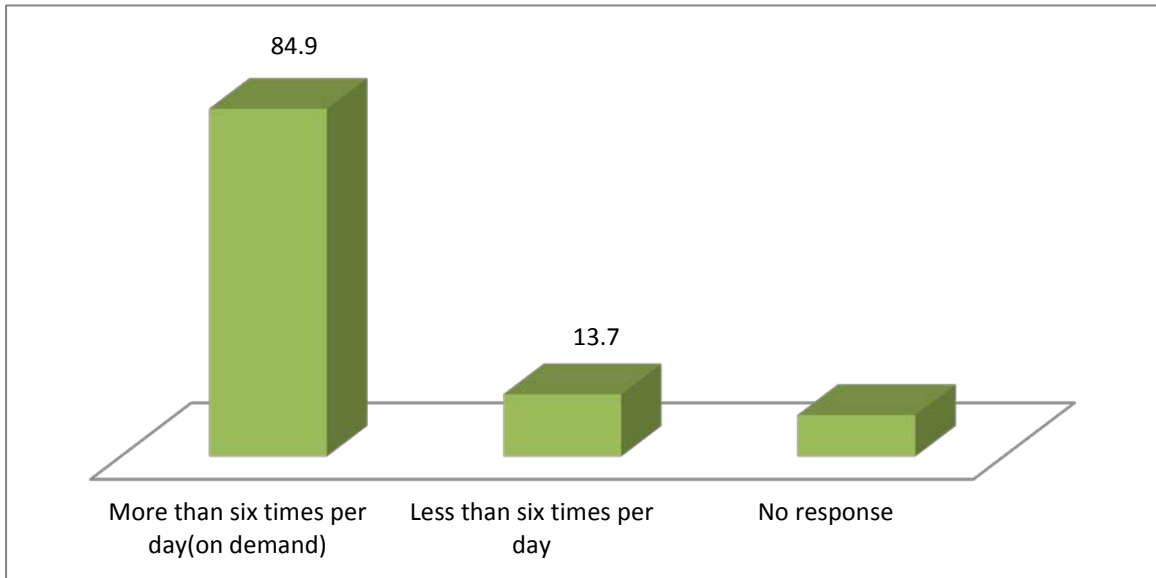
The results indicate that 70 (40%) of mothers were influenced by health workers, for 66 (37.7%) it was a personal choice, and 29 (22.3%) were influenced by family to choose the manner of feeding (Figure 4.12).



n=175

Figure 4.13: Did your HIV-status influence your choice of feeds?

Figure 4.13 indicates that 152 (86.9%) of the responding mothers were not influenced by their HIV-status on the choice of feeds while 23 (13.1) were influenced by their HIV-status.

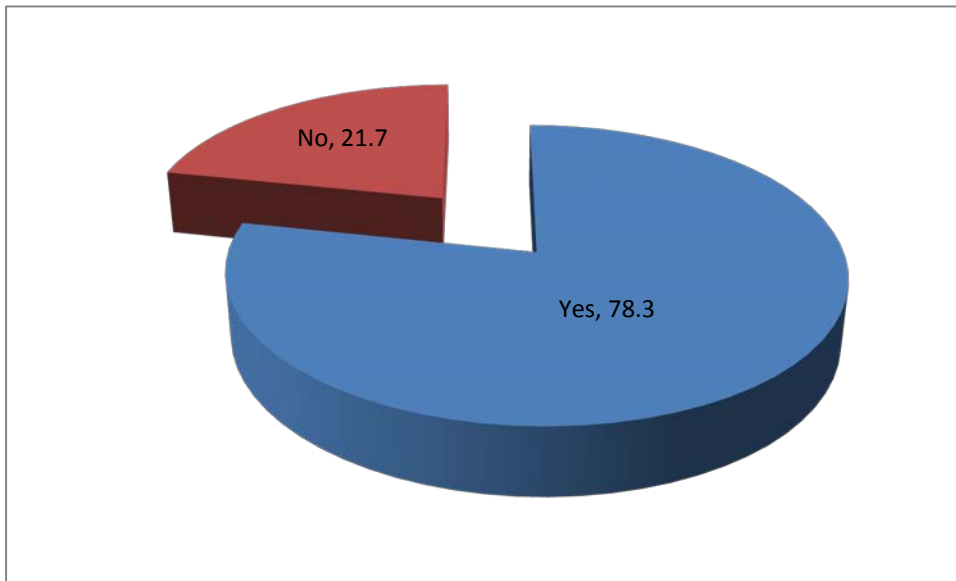


n= 159

Figure 4.14: The number of times the babies were breastfed

The majority, 135 (84.9%) of the respondents breastfed their babies more than six times a day (on demand) while 24 (15.1%) of them breastfed six times or less a day (Figure 4.14).

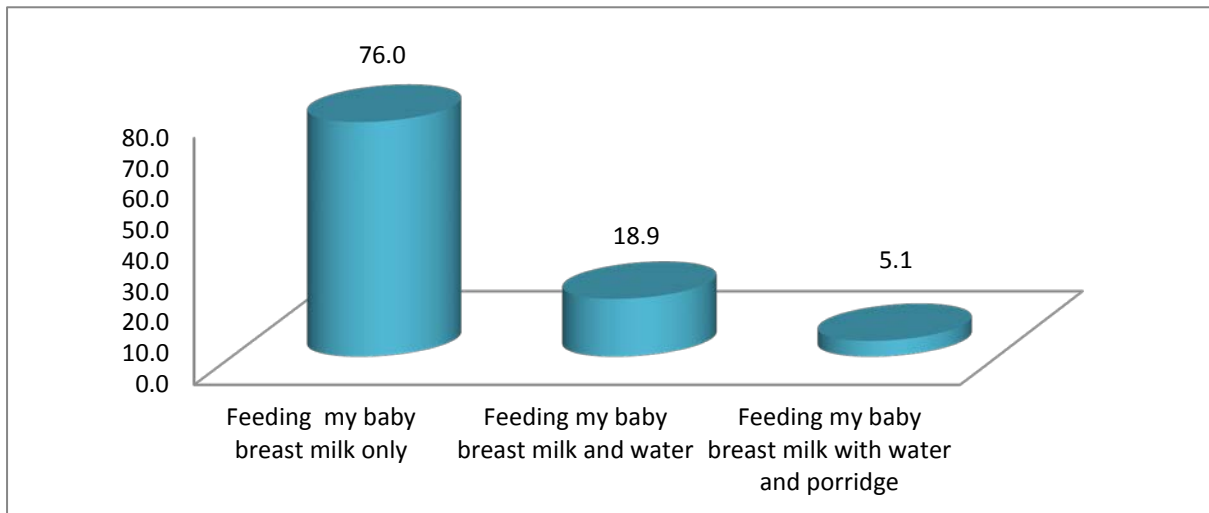
4.2.4 Section D: Knowledge on exclusive breastfeeding



n=175

Figure 4.15: Given information on exclusive breastfeeding

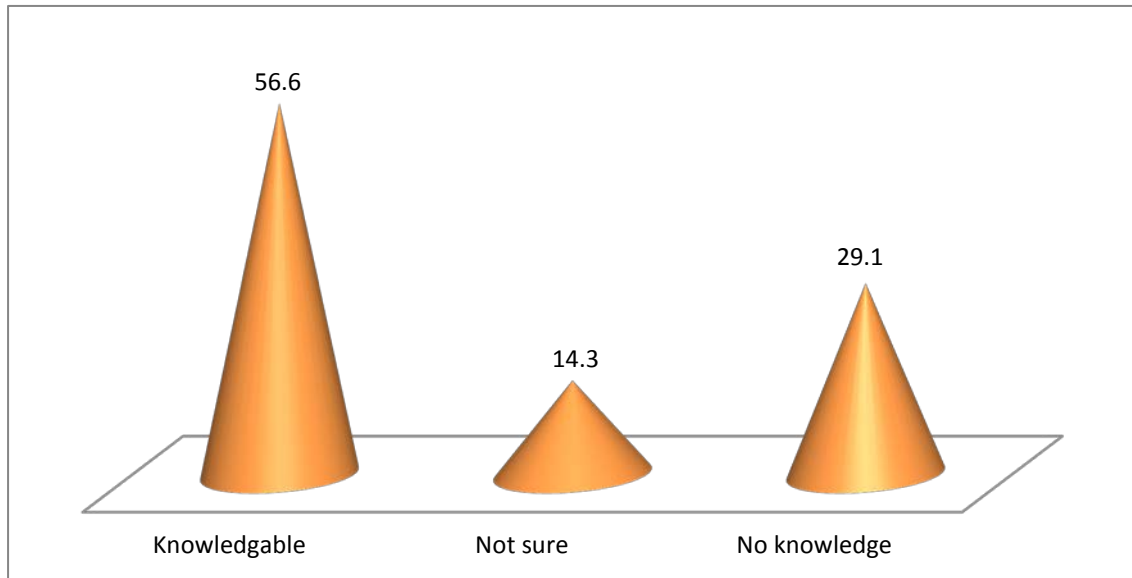
Those respondents who had received information on exclusive breastfeeding were more, 137 (78.3%) than the ones, 38 (21.7%) who did not receive any information on exclusive breastfeeding.



n=175

Figure 4.16: Which of the choices closely explains exclusive breastfeeding?

More than three quarters, 133 (76%) of the responding mothers knew what exclusive breastfeeding was, 33 (18.9%) of them thought it was mixing breast milk and water, whilst 9 (5.1%) believed that exclusive breastfeeding was giving the baby breast a combination of milk, porridge, and water (Figure 4.16).

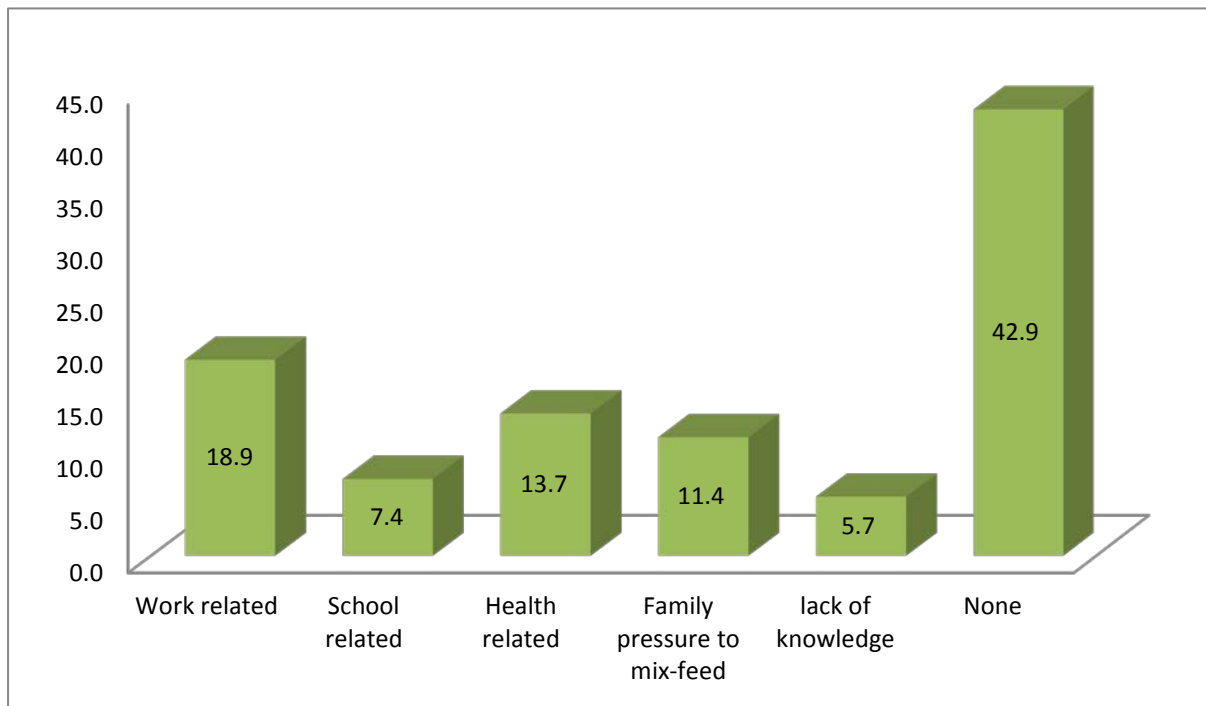


n=175

Figure 4.17: Summary of the results on knowledge of exclusive breastfeeding (Questions 27 – 34 of the questionnaire)

Figure 4.17, in short, indicates that the respondents who were knowledgeable on exclusive breastfeeding were 99 (56.6%), 25 (14.3%) were unsure of what it referred to, and 51 (29.1%) did not have adequate knowledge on exclusive breastfeeding.

4.2.5 Section E: Challenges



n=175

Figure 4.18: Challenges that prevented mothers from exclusively breastfeeding

Nearly a third of the respondents, 33 (18.9%) were experiencing work related challenges that prevented them from exclusively breastfeeding for six months, nearly a quarter, 24 (13.7%) reported health related issues, 20 (11.4%) were experiencing family pressure to mix-feed, 13 (7.4%) indicated school related challenges, 10 (5.7%) reported lack of knowledge, and 75 (42.9%) said they had no challenges that hindered them from exclusively breastfeeding (Figure 4.18).

4.3 THE ASSOCIATION BETWEEN VARIABLES

In this section, the association between age, marital status, employment status, and HIV-status in relation to the knowledge and practice of exclusive breastfeeding is presented. The purpose was to determine whether the association between the variables did exist. In this study, proper practice meant exclusive breastfeeding while improper practice referred to mixed feeding or formula feeding.

Table 4.11: Association between mothers' age and knowledge of exclusive breastfeeding

Age in years	Knowledge on exclusive breastfeeding		Total
	No knowledge	Knowledgeable	
12 – 17 years	1	2	3
18 – 24 years	32	30	62
25 – 35 years	35	58	93
36 – 49 years	8	9	17
Total	76	99	175

Chi-Square= 3.177; Sig = 0.365; $p > 0.05$

The study did not find any association between the age of the mother and having knowledge about exclusive breastfeeding (Table 4.11).

Table 4.12: Association between mothers' age and feeding practice

Age in years	Feeding practice		Total
	Improper practice	Proper practice	
12 – 17 years	2	1	3
18 – 24 years	43	19	62
25 – 35 years	48	45	93
36 – 49 years	8	9	17
Total	101	74	175

Chi-Square= 5.750; Sig= 0.124; $p > 0.05$

Age did not have an impact on the mother's practice of breastfeeding as indicated in Table 4.12.

Table 4.13: Association between marital status and knowledge of exclusive breastfeeding

Marital status	Knowledge on exclusive breastfeeding		Total
	No knowledge	Knowledgeable	
Single	68	76	144
Married	8	23	31
Total	76	99	175

Chi-Square= 4.762, Sig= 0.029; $p < 0.05$

Table 4.13 indicates that there was an association between being married and having knowledge about exclusive breastfeeding.

Table 4.14: Association between marital status and feeding practice

Marital status	Feeding practice		Total
	Improper practice	Proper practice	
Single	87	57	144
Married	14	17	31
Total	101	74	175

Chi-Square= 2.433; Sig= 0.119; $p > 0.05$

There was no association between being married and practising exclusive breastfeeding (Table 4.14). The marital status had no influence on the mother with regard to exclusive breastfeeding.

Table 4.15: Association between employment status and feeding practice

Employment status	Feeding practice		Total
	Improper practice	Proper practice	
Student	19	5	24
Unemployed	48	48	96
Labourer/Domestic worker	24	15	39
Professional	10	6	16
Total	101	74	175

Chi-Square=7.250; Sig= 0.64; $p>0.05$

There was no association between employment status and the practice of exclusive breastfeeding. Figure 4.18 indicates that 42.9% of mothers had no work related challenges but the number of mothers who exclusively breastfed remained low.

Table 4.16: Mothers' HIV-status in relation to the knowledge of exclusive breastfeeding

Mothers' HIV-status	Knowledge on exclusive breastfeeding		Total
	No knowledge	Knowledgeable	
Negative	47	73	120
Positive	29	26	55
Total	76	99	175

Chi-Square= 2.823; Sig= 0.093; $p>0.05$

Table 4.16 indicates that there was no relationship between the mothers' HIV-status and having knowledge about exclusive breastfeeding.

Table 4.17: Association between HIV-status and feeding practice

HIV-status	Feeding practice		Total
	Improper practice	Proper practice	
Negative	74	46	120
Positive	27	28	55
Total	101	74	175

Chi-Square= 2.444; Sig=0.118; $p>0.05$

The HIV-status of the mother had no impact on whether she would practise exclusive breastfeeding or not. These results concur with figure 4.13, which indicated that 86.9% of mothers were not influenced by their HIV status when choosing feeds for their infants.

Table 4.18: Association between knowledge and feeding practice

Knowledge about feeding practice	Feeding Practice		Total
	Improper feeding	Proper feeding	
No knowledge	54	45	99
Knowledgeable	20	56	76
Total	74	101	175

Chi-square=14.039; Sig= 0.000 $p<0.05$

There was an association between having knowledge about exclusive breastfeeding and feeding practice. Those respondents who had knowledge about exclusive breastfeeding did practice it (Table 4.18).

4.4 CONCLUSION

The results are presented in the format of tables, figures, and graphs in this chapter. In the next chapter, the major findings and recommendations are discussed. The recommendations are proposed based on the findings of this study.

CHAPTER 5

RESTATEMENT OF THE PROBLEM STATEMENT AND OBJECTIVES, DISCUSSION OF MAJOR FINDINGS, LIMITATIONS, AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter discusses the implication of the major findings as presented in Chapter 4. The problem statement and objectives of the study are restated. The recommendations are made thereafter. The findings are discussed according to the sections in the questionnaire (Appendix A). In addition, the association between variables are also discussed.

5.2 RESTATEMENT OF THE RESEARCH PROBLEM

All pregnant women who consult at the clinics are supposed to be advised about exclusive breastfeeding for the first six months of their babies' lives. These pregnant women are expected to have made a choice about feeding when they are admitted to the hospital or clinic for delivery. The researcher, who was working as a midwife in the maternity ward at the Mokopane Hospital where most of these women delivered, had observed that some of those mothers appeared to be reluctant to exclusively breastfeed after delivery. Some of them seemed to think that it was not possible to exclusively breastfeed for six months. This was of concern, since it was expected that when these women were admitted for delivery, should have made up their minds in relation to their feeding choices. It was also of great concern to the researcher that women who were HIV-positive did not seem to have information on the importance of exclusively breastfeeding their babies. Mothers who are HIV-positive are expected to practice exclusive breastfeeding for six months in order to prevent mother-to-child transmission of HIV. The purpose of this study was to determine the knowledge and practices of mothers with regard to exclusive breastfeeding.

5.3 RESTATEMENT OF OBJECTIVES OF THE STUDY

- To determine the knowledge of mothers with regard to exclusive breastfeeding.
- To describe the practices of mothers in relation to exclusive breastfeeding.
- To determine the association between age, marital status, employment, and HIV-status on the one hand and knowledge and practices on the other of mothers with regard to exclusive breastfeeding in the Mahwelereng Local Area.

5.4 DISCUSSION OF THE MAJOR FINDINGS

- **Age of mothers**

Most women in this study were between the ages of 26 and 35 years. An insignificant number were between the ages of 12 and 17 years. The age group between 26 and 35 years was the age group during which most women had become pregnant. It is encouraging that many women had knowledge about exclusive breastfeeding in comparison with those who did not have such knowledge. It is not surprising that they had knowledge about exclusive breastfeeding because nearly all of the women did attend antenatal health care and most attended more than four times. It was during this period when they attended antenatal health that they were supposed to be given health education about exclusive breastfeeding. There was no association between the age of mothers and knowledge of exclusive breastfeeding, as well as practising exclusive breastfeeding.

- **Marital status**

More mothers in this study were single in comparison with the ones who were married (Table 4.3). There was an association between marital status and knowledge of exclusive breastfeeding, though there was no association between marital status and practice of exclusive breastfeeding. Maru, *et al.*, (2009) reported that a lack of emotional support by a partner leads to mix feeding. It is not known in this study whether the women who were single did not have partners who supported them emotionally.

- **Employment status**

More women were unemployed; hence most of the respondents in this study reported that they were caring for their babies. Amin *et al.*, (2011) found that 51% of mothers who were employed were unlikely to breastfeed for more than three months due to lack of support and inadequate facilities, such as crèches at their workplaces. This study found no association between employment status and knowledge and practice of exclusive breastfeeding. This was surprising, since we would expect that those respondents who were unemployed would exclusively breastfeed and the ones who had knowledge would also breastfeed their babies exclusively.

- **Obstetric history**

More mothers (80%) in this study had a normal vaginal delivery in comparison to 20% who delivered by a caesarean section. It is expected that most mothers will have no excuses not to breastfeed after delivery as they delivered normally. This is supported by Khassawneh, *et al.*, (2006) who report that women who have a caesarean section are unlikely to breastfeed.

Most women delivered at the hospitals and few at the clinics and about 3% delivered outside of the health care services. It was expected that women would be advised by health professionals on the importance of breastfeeding and they would be given an opportunity of breastfeeding immediately after birth.

- **HIV testing**

All mothers in this study reported that they had tested for HIV. Most of them tested when they were pregnant, 21% tested before pregnancy while an insignificant percentage tested after delivery. A significant percentage (31.4%) tested HIV-positive which is higher than the recorded figure for the Limpopo province that was found to be 22.1% in 2011(Department of Health, 2011).

It is surprising that there is no association between HIV-status and knowledge about exclusive breastfeeding, as well as practicing exclusive breastfeeding. It was expected that the ones who had tested HIV-positive should have had knowledge about exclusive breastfeeding and practice it to prevent their babies from being

infected with HIV due to mixed feeding. Mothers who have tested HIV-positive are supposed to be provided with counselling as recommended by the HSRC (2008).

- **Feeding practices**

Out of those respondents who were exclusively breastfeeding, only 1.1% of mothers were willing to breastfeed for six months, 41.1% said they would only exclusively breastfeed for less than six months due to the following reasons: work, schooling, ill-health and family pressure. The highest percentage (42.9%) indicated that they had no reason not to breastfeed exclusively. The majority of women reported that the HIV-status would not influence them to practise exclusive breastfeeding. These findings are supported by the WHO (2011) which estimates that worldwide, only 35% of infants between 0 – 4 months are exclusively breastfed. Amin, *et al.*, (2011) reported that even those mothers who are exclusively breastfeeding are willing to do so for less than six months. Based on these findings, it can be concluded that it is difficult to understand why women would not practise exclusive breastfeeding.

- **Knowledge of exclusive breastfeeding**

The majority of women (85.7%) in this study reported that they were counselled about feeding practices whereas only 14.3% of the respondents reported that they did not receive counselling about feeding practices. The counselling on feeding practices also included information about exclusive breastfeeding as confirmed by 78.3% of the mothers. More than three quarters of the women (76%) chose the statement that best explained what exclusive breastfeeding was although 18.9% of the responding mothers thought that exclusive breastfeeding meant feeding the baby with breast milk and water.

This study revealed that there was an association between knowledge and practice of exclusive breastfeeding. This meant that having knowledge about exclusive breastfeeding would influence the woman to practice it. These results are in contrast with the study by Agu & Agu (2011) in a rural population in Nigeria who have found that 87% of mothers have good knowledge of what exclusive breastfeeding is, but only 30% of mothers are practising it. It is however, surprising that almost half of the women were practicing mix-feeding and those who were practicing exclusive breastfeeding did that for less than six months.

5.5 CONCLUSION

The aim of the study was to determine the knowledge and practices of mothers with regard to exclusive breastfeeding. The following conclusions were drawn from the study.

The majority of respondents showed adequate knowledge of what exclusive breastfeeding was. It was also clear from the responses in Chapter 4 that most mothers were counselled on breastfeeding, since the significant number of mothers had attended antenatal clinics whilst pregnant.

However, it was disappointing that despite the knowledge acquired almost half of the respondents were mix-feeding, and of the ones who were exclusively breastfeeding were willing to do so for less than six months. Most mothers had disclosed their HIV status, therefore, it could not have been a hindrance to exclusive breastfeeding given that more than half of the respondents were not exclusively breastfeeding.

Some of the reasons given for not exclusively breastfeeding for six months were work related, since mothers had to return to work at four months post-delivery. Since some mothers had to return to school, their children were left in the care of family members. A significant number of mothers revealed that they were pressured into mix feeding by family members, since they were not receptive to the idea of expressing breast milk for later use (Figure 4.12 and 4.18). They would rather mix feed.

5.6 LIMITATIONS

Mothers who were breastfeeding exclusively at the time of the study might not have done so for six months. For example, a mother who had a baby who was three months old at the time of the study might not have exclusively breastfed for six months. The results of the study cannot be generalised to all local areas, therefore, further research studies are needed to advance change that will be desirable and in favour of exclusive breastfeeding.

5.7 RECOMMENDATIONS

Based on the results of this study, the following recommendations are made by the researcher.

Women should be encouraged to attend antenatal classes when they are pregnant and health professionals should be trained on exclusive breastfeeding in order to intensify counselling.

Expressing breast milk by mothers should be emphasised to ensure that exclusive breastfeeding is maintained even in the absence of the mother. This could be maintained when mothers are encouraged to express breast milk and carers are taught how to store it, when and how to feed the baby.

One-on-one counselling on exclusive breastfeeding during each antenatal visit is recommended in addition to group counselling to ensure a thorough understanding of the importance of exclusive breastfeeding. Mothers should be encouraged to exclusively breastfeed and mixed feeding should be discouraged, since it predisposes babies to infections and increases the risk of HIV transmission.

Maternity leave for employed mothers should be extended to six months in order to ensure that mothers exclusively breastfeed for the recommended time period of six months.

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APPENDIX A: QUESTIONNAIRE

SECTION A: DEMOGRAPHIC DATA

Your responses will be used for statistical purposes only. Confidentiality is guaranteed.

Please indicate with an “X” in the appropriate block that most closely represents your personal situation. Please mark one item only per question.

0. Name of clinic

Mogalakwena Clinic	1
Bokwalakwa Clinic	2
Sekgagapeng Clinic	3
Madiba Clinic	4
Mahwelereng Clinic 2	5
Mahwelereng Clinic 1	6

1. Age of respondents in years

12-17	1
18-24	2
25-35	3
36-49	4

2. Marital status

Single	1
Married	2
Divorced	3
Widowed	4

3. Highest Level of education.

Never been to school	1
Primary (Grade1-Grade 7)	2
Secondary (Grade 8-Grade 12)	3
Tertiary	4

4. Employment status?

Student	1
Unemployed	2
Labourer/Domestic worker	3
Professional	4

5. Monthly household income?

Less than R1500	1
R1 500 – R3000	2
More than R3000	3

6. Age of baby in months

Birth-1 month	1
2-3 months	2
4-6 months	3

7. Who cares for your baby most of the time?

Myself	1
Family member	2
Nanny/ helper	3
Day care centre	4

SECTION B: MEDICAL HISTORY

8. Did you attend antenatal clinic while pregnant?

Yes	1
No	2

9. If yes, how many times did you attend antenatal clinic?

Only once	1
2-3 times	2
4 times and more	3

10. Place of delivery

Hospital	1
Clinic	2
Home	3
On the way to a hospital/clinic	4

11. Mode of delivery

Normal vaginal delivery	1
Instrumental (forceps or vacuum)	2
Caesarean section	3

12. Parity (How many children have you delivered?)

Only 1	1
2-4	2
5 and more	3

13. Have you tested for HIV?

Yes	1
No	2

14. If yes, would you like to share your HIV-status?

Negative	1
Positive	2
Not willing to share my HIV-status	3

15. When did you test for HIV?

Before the pregnancy	1
When pregnant	2
After delivery	3

16. If you know your HIV-status, have you disclosed?

Yes	1
No	2

17. If disclosed, to whom?

Partner	1
Mother	2
Friend	3
Relative	4

SECTION C: FEEDING PRACTICES

18. Were you counselled on feeding practices?

Yes	1
No	2

19. Which feeding method do you use?

Exclusive breastfeeding	1
Formula feeding	2
Mixed-feeding	3

20. If using exclusive breastfeeding, for how long do you intend to exclusively breastfeed your baby?

Less than 6 months	1
6-12 months	2
More than a year	3

21. When did you start feeding your baby?

Immediately after birth	1
Three hours and more after birth	2
A day and more after birth	3

22. Who influenced your choice of feeds?

Personal choice	1
Health workers (Nurses/Doctors)	2
Family	3
Friends	4
Colleagues/Schoolmates	5

23. Did your HIV-status influence your feeding choice?

Yes	1
No	2

24. How many times do you breastfeed your baby?

More than six times per day(on demand)	1
Less than six times per day	2

SECTION D: KNOWLEDGE ON EXCLUSIVE BREASTFEEDING

25. Have you been given information on exclusive breastfeeding?

Yes	1
No	2

26. Which one of the choices closely explains what exclusive breastfeeding is?

Feeding my baby breast milk only	1
Feeding my baby breast milk and water	2
Feeding my baby breast milk with water and porridge	3

Choose the statement which best describes the meaning of the following:

SA= Strongly Agree

A= Agree

U= Uncertain

D= Disagree

SD= Strongly Disagree

27. Exclusive breastfeeding is good for your baby.

1. SA	2. A	3. U	4. D	5. SD
-------	------	------	------	-------

28. Babies get satiety (enough) from exclusive breastfeeding.

1. SA	2. A	3. U	4. D	5. SD
-------	------	------	------	-------

29. Colostrum (thick yellowish first breast milk) is good for your baby.

1. SA	2. A	3. U	4. D	5. SD
-------	------	------	------	-------

30. Colostrum is enough for your baby or satisfies your baby.

1. SA	2. A	3. U	4. D	5. SD
-------	------	------	------	-------

31. It is important to breastfeed your baby exclusively for six months.

1. SA	2. A	3. U	4. D	5. SD
-------	------	------	------	-------

32. Babies should be given water or porridge to supplement breast milk.

1. SA	2. A	3. U	4. D	5. SD
-------	------	------	------	-------

33. I would exclusively breastfeed my baby even if I have enough money to buy formula.

1. SA	2. A	3. U	4. D	5. SD
-------	------	------	------	-------

34. It is important to express breast milk for later use.

1. SA	2. A	3. U	4. D	5. SD
-------	------	------	------	-------

35. What challenges prevents you from exclusively breastfeeding successfully for six months?

Work-related	1
School-related	2
Health-related	3
Family pressures	4
Lack of knowledge	5
None	6

APPENDIX B: CONSENT FORM (ENGLISH)

UNIVERSITY OF LIMPOPO (Turfloop Campus) ENGLISH CONSENT FORM

Statements concerning participation in a Research Project.*

Name of Study: The knowledge and practices of mothers regarding exclusive breastfeeding in the Mahwelereng Local Area of the Waterberg District, Limpopo Province.

I have read the information and heard the aims and objectives of the proposed study and was provided the opportunity to ask questions and given time to rethink the issue. The aim and objectives of the study are sufficiently clear to me. I have not been pressured into participating in anyway.

I am aware that this material may be used in scientific publications that will be electronically available throughout the world. I consent to this provided that my name and hospital/clinic number are not revealed.

I understand that participation in this study is completely voluntary and that I may withdraw from it at any time without supplying reasons. This will have no influence on the regular treatment that holds for my condition neither will it influence the care that I receive from my regular health provider.

I know that this study has been approved by the Medunsa Research Ethics Committee (MREC), University of Limpopo (Medunsa Campus). I am fully aware that the results of this study will be for scientific purposes and may be published. I agree to this, provided my privacy is guaranteed.

I hereby give consent to participate in this study.

Name of participant

Signature of participant

Place

Date

Witness

Statement by the researcher

I provided verbal and/or written information about this study / project.

I agree to answer any future questions concerning the study/ project as best as I am able.

I will adhere to the approved protocol.

Frans R.A

Name of Researcher

Signature

Date

Place

APPENDIX C: CONSENT FORM (SEPEDI)

UNIVERSITY OF LIMPOPO(Turfloop Campus) SEPEDI CONSENT FORM

Setatamentemabapi le go tseakarolokagaprotsekeyadinyakisisotsatekoyaklinikhale

Leina la Protseke/ Dinyakisiso/Teko

Tseboyabommagobana le kamokgwa woo badiragomabapi le go nyantshaletswefelamotikologongyaMahwelereng, districting ya Waterberg moprovincingya Limpopo.

Kebadile/kekwelekagatshedimosomabapi le maikemisetso le moreorwadinyakisisotseo di sisintswegogommekeilekafiwamonyetlawa go botsisadipotsisogommekafiwanako yeo e lekanego gore kenagaNisekagataba ye. Ketlogakekwesisamaikemisetso le morero le dinyakisisotsegabotse. Ga se kagapeletswa go kgathatemakatselaefegobaefe.

Ke a kwisisa gore go kgathatemaprotsekeng/DinyakisisongtsetsaTekoyaKlinikhale* kegaboithaopogommenkatlogela go kgathatemanakongefegobaefentle le gore kefemabaka. Se saka se be le khuetsoefe go kalafoyakayakamehlayamaemo a ka gape e ka se huetse le gee kabatlhokomelo yeo ke e humanago go ngakayakayakamehla.

Ke a tseba gore Teko/Protseke /Dinyakisiso* tse di dumeletsweweMedunsa Research Ethics committee (MREC), Yunibesithiya Limpopo (KhamphasengyaMedunsa). Ketsebagabotse gore dipoelotsaTeko/Dinyakisiso/Protseketse di tladirisetswamereroyasaensegomme di kaphatlalatswa. Kedumelalana le se, gefelabosephiribjakabokatiisetswa.

Mo kefatumeleloya go kgathatekong/Dinyakisisong/Protsekeng.

Leina la Moithaopi

mosaenowaMoithaopi

Lefelo

Tsatsikgwedi

Tlhatse

SetatamentekaMonyakisisi

Kefanakatshedimosokamolomo le/goba yeo e ngwadilwego *mabapi le Teko/Dinyakisiso/Protseke ye.

Kedumela go arabadipotsisodifegobadifetsakamosomabapi le Teko/ Dinyakisiso/ Protsekekabokgonika moo nkakgonagokagona.

Ketlalatelamelao yeo e dumeletswego*.

Leina la Monyakisisi	Mosaeno	Letsatsikgwedi	Lefelo
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APPENDIX D: LETTER TO REQUEST PERMISSION TO COLLECT DATA

Frans RA
43B Park Street
Mokopane
0601
22 April 2013

The Head of Department
Limpopo Department of Health
18 College Street
Polokwane
0700

Dear Sir/ Madam

Permission to collect data from mothers in the Mahwelereng Local Area of the Waterberg District

I am Raesetja Annah Frans, a final year Master's Degree student in Public Health at the University of Limpopo (Turfloop Campus). As a requirement to complete my degree, I will conduct a study titled "The knowledge and practices of mothers regarding exclusive breastfeeding in the Mahwelereng Local Area of the Waterberg District, Limpopo Province" under the supervision of Prof R. N. Malema and Mr S. F. Matlala.

The population of the study will be mothers with infants who are six months old and younger. A quantitative approach with a cross sectional design will be used for the study. A simple random sampling will be used to select participants who fit the inclusion criteria. Structured questionnaires will be used to collect data from

participants. The aim of the study is to determine the knowledge and practices of mothers regarding exclusive breastfeeding in the Mahwelereng Local Area.

The following ethical considerations will be prioritised:

- Ethical clearance will be requested from Medunsa Research and Ethical Committee.
- Written and/ or verbal informed consent will be obtained from participants, who will also be informed of their right to withdraw from the study should they wish to do so.
- Names of participants will be omitted from the questionnaires to ensure anonymity.
- A private or consultation room will be used for the purpose of data collection to ensure privacy.
- No risks or discomfort is envisaged in participating in the study.

The researcher hopes to add to the body of knowledge on exclusive breastfeeding. Recommendations based on the results of the study will hopefully influence the breastfeeding policies.

I shall execute the study in strict accordance with the approved proposal requirements of the ethics policy of the University of Limpopo, and trust that my proposal will be favourably considered.

Yours faithfully

Frans Raesetja Annah

Email- rasesetjafrans@gmail.com

APPENDIX E: APPROVAL LETTER FROM MREC

UNIVERSITY OF LIMPOPO
Medunsa Campus



MEDUNSA RESEARCH & ETHICS COMMITTEE

CLEARANCE CERTIFICATE

MEETING: 09/2013
PROJECT NUMBER: MREC/DJ/303/2013: PG

PROJECT:

Title: The knowledge and practices of mothers regarding exclusive breastfeeding in the Mahwelereng local area of the Waterberg district, Limpopo province.

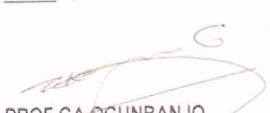
Researcher: Mrs RA Frans
Supervisor: RN Malema
Co-supervisor: SF Matlala
Department: Medical Sciences, Public Health & Health Promotion
School: Health Sciences
Degree: MPH

DECISION OF THE COMMITTEE:

MREC approved the project.

DATE: 07 November 2013




PROF GA OGUNBANJO
CHAIRPERSON MREC

The Medunsa Research Ethics Committee (MREC) for Health Research is registered with the US Department of Health and Human Services as an International Organisation (IORG0004319), as an Institutional Review Board (IRB00005122), and functions under a Federal Wide Assurance (FWA00009419)
Expiry date: 11 October 2016

Note:

- i) Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee.
- ii) The budget for the research will be considered separately from the protocol.
PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

Finding Solutions for Africa



APPENDIX F: PERMISSION TO COLLECT DATA (LIMPOPO DEPARTMENT OF HEALTH)



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH

Enquiries: Selamolela Donald

Ref: 4/2/2

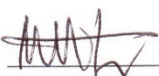
Frans RA
University of Limpopo
Sovenga
0727

Greetings,

Re: The knowledge and practices of mothers regarding exclusive breastfeeding in the Mahwelereng local area of the Waterberg District, Limpopo Province.

1. The above matter refers.
2. Permission to conduct the above mentioned study is hereby granted.
3. Kindly be informed that:-
 - Further arrangement should be made with the targeted institutions.
 - In the course of your study there should be no action that disrupts the services.
 - After completion of the study, a copy should be submitted to the Department to serve as a resource.
 - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.

Your cooperation will be highly appreciated.



PD Head of Department

17/12/2013

Date

APPENDIX G: PERMISSION TO COLLECT DATA (WATERBERG DISTRICT HEALTH OFFICE)



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

**DEPARTMENT OF HEALTH
WATERBERG DISTRICT**

Cnr. 100 Nelson Mandela Drv.
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Modimolle
0510

REF : 4/2/2
ENQ : LAMOLA MM
DATE : 31ST DECEMBER 2013

TO: FRANS R.A
UNIVERSITY OF LIMPOPO
SOVENGA
0727

SUBJECT: THE KNOWLEDGE AND PRACTICES OF MOTHERS REGARDING EXCLUSIVE BREASTFEEDING IN THE MAHWELERENG LOCAL AREA OF THE WATERBERG DISTRICT, LIMPOPO PROVINCE

1. The above matter bears reference
2. The District Office hereby acknowledge and grants you permission to conduct the above mentioned study at Mahwerelereng Local Area.
3. Further note that during your research or study no services should be disrupted.

Your cooperation will be highly appreciated.

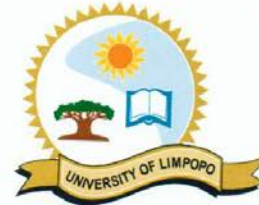
DISTRICT EXECUTIVE MANAGER

31-12-2013

DATE

APPENDIX H: LETTER FROM THE UNIVERSITY STATISTICIAN

UNIVERSITY OF LIMPOPO
Turfloop Campus



Research Development and Administration

RESEARCH DEVELOPMENT UNIVERSITY OF LIMPOPO
2014 -04- 03
PRIVATE BAG X1106 SOVENGA 0727 TEL NO. (015) 268 2401

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Tel.: (015) 268 2168
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Int. Tel.: +27 15 268 2168
Int. Fax: +27 15 268 2306
E-mail: Mmbengeni.netshidzivhani@ul.ac.za

RESEARCH STATISTICIAN LETTER

Dear Sir/Madam

STATISTICAL ANALYSES

I have studied the research protocol of RAESSETJA ANNAH FRANS

Titled: **THE KNOWLEDGE AND PRACTICES OF MOTHERS REGARDING EXCLUSIVE BREASTFEEDING IN THE MAHWELRENG LOCAL AREA OF THE WATERBERG DISTRICT, LIMPOPO PROVINCE.**

and I agree to assist with the statistical analyses.

I trust the above is in order; should you require any further assistance, please do not hesitate to contact me personally.

Yours sincerely,

Victor Netshidzivhani

Research Statistician: Research Development and Administration

Tel: 015 268 3702

Fax: 015 268 2306 / 086 696 0812

Cell: 072 246 4551

E-mail: mmbengeni.netshidzivhani@ul.ac.za

E-mail2: mnetshid23@gmail.com



APPENDIX I: EDITING CONFIRMATION



* The stars that tell the spade when to dig and the seeds when to grow *

* Isilimela – iinkwenkwezi ezixelela umhlakulo ukuba mawembe nembewu ukuba mayikhule*

P O Box 65251
Erasmusrand
0165

02 June 2014

Dear Ms Raesetja Frans

CONFIRMATION OF EDITING THE THE MINI-DISSERTATION WITH THE TITLE THE KNOWLEDGE AND PRACTICES OF MOTHERS REGARDING EXCLUSIVE BREASTFEEDING IN THE MAHWELERENG LOCAL AREA OF THE WATERBERG DISTRICT, LIMPOPO PROVINCE

I hereby confirm that I have edited the abovementioned dissertation as requested.

Please pay particular attention to the editing notes AH01 to AH19 for your revision.

The tracks copy of the document contains all the changes I have effected while the edited copy is a clean copy with the changes removed. Kindly make any further changes to the edited copy since I have effected minor editing changes after removing the changes from the tracks copy. The tracks copy should only be used for reference purposes.

Please note that it remains your responsibility to supply references according to the convention that is used at your institution of learning.

You are more than welcome to send me the document again to perform final editing should it be necessary.

Kind regards

André Hills
083 501 4124

